SEQUENCE LISTING

<110> Collmer, Alan
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Charkowski, Amy O.

<120> DNA MOLECULES AND POLYPEPTIDES OF PSEUDOMONAS SYRINGAE HRP PATHOGENICITY ISLAND AND THEIR USES

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<151> 2000-04-03

<150> 60/224,604
<151> 2000-08-11

<150> 60/249,548
<151> 2000-11-17

<160> 91

<170> PatentIn Ver. 2.1

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<213> Pseudomonas syringae

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<213> Pseudomonas syringae

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Ser His Ala Thr Glu Ser Ser Ser Ala Gly Ala Ala Arg Leu Asn Val
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Ala Ala Arg His Thr Gln Leu Leu Gln Ala Phe Lys Ala Glu His Gly
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Thr Ala Pro Val Ser Gly Ala Pro Met Ile Ser Ser Arg Ala Ala Leu
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Leu Ile Gly Ser Leu Leu Gln Ala Glu Pro Leu Pro Phe Glu Val Met
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Ala Glu Lys Leu Ser Pro Glu Arg Tyr Gln Leu Lys Gln Phe Gln Gly
115 120 125

Ser Asp Leu Gln Gln Arg Leu Glu Lys Phe Ala Gln Pro Gly Gln Ile
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Pro Asp Lys Ala Glu Val Gly Gln Leu Ile Lys Gly Phe Ala Gln Ser
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Val Ala Asp Gln Leu Glu His Phe Gln Leu Met His Asp Ala Ser Pro

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Gly Glu Gly Leu Ser Asn Ser Ile Ala Ser Leu Asp Glu His Ile Ser
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Ala Leu Asp Leu Thr Leu Gln Asp Ala Glu Gln Gly Asn Lys Glu Ser
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Leu His Ala Asp Arg Gln Ala Leu Val Asp Ala Lys Thr Thr Leu Val
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Gly Leu His Ala Asp Phe Val Lys Ser Pro Glu Ala Lys Arg Leu Ala
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Ser Val Ala Ala His Thr Gln Leu Asp Asn Val Val Ser Asp Leu Val
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Thr Ala Arg Asn Thr Val Gly Gly Trp Lys Gly Ala Gly Pro Ile Val
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Ser Ala Phe Gly Gly Ser Gln Ala Val Arg Gln Met Leu Asn Asp Val
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Phe Gly Gly Ala Val Ser Ala Ser Ser Gln Thr Leu Leu Gln Leu Lys
485 490 495

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Asp Arg Ala Glu Ser Asp Leu Lys Lys Asp Leu Leu Lys Gly Met Asp
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Leu Arg Glu Pro Ser Val Arg Thr Thr Phe Tyr Ser Lys Ala Leu Ser
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Gly Ile Gln Ser Ser Ala Leu Thr Ser Ala Leu Pro Pro Val Thr Ala
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Gln Ala Glu Gly Ala Ser Gly Thr Leu Ser Ala Gly Ala Ile Leu Arg
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Asn Met Ala Leu Ala Ala Thr Gly Ser Val Ser Tyr Leu Ser Thr Leu
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<211> 495
<212> DNA
<213> Pseudomonas syringae

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<212> PRT
<213> Pseudomonas syringae

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<212> DNA
<213> Pseudomonas syringae

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<213> Pseudomonas syringae

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Leu Ile Glu Thr Arg Ala Ser Arg Leu His Phe Glu Gly Glu Thr Pro
                 85                  90                  95

Ala Thr Ile Ala Asp Thr Phe Ala Lys Ala Glu Lys Leu Asp Arg Leu
            100                 105                 110

Ala Thr Thr Thr Ser Gly Ala Leu Arg Ala Thr Pro Phe Ala Met Ala
        115                 120                 125

Ser Leu Leu Gln Tyr Met Gln Pro Ala Ile Asn Lys Gly Asp Trp Leu
    130                 135                 140

Pro Ala Pro Leu Lys Pro Leu Thr Pro Leu Ile Ser Gly Ala Leu Ser
145                 150                 155                 160

Gly Ala Met Asp Gln Val Gly Thr Lys Met Met Asp Arg Ala Thr Gly
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Asp Leu His Tyr Leu Ser Ala Ser Pro Asp Arg Leu His Asp Ala Met
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Ala Ala Ser Val Lys Arg His Ser Pro Ser Leu Ala Arg Gln Val Leu
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Asp Thr Gly Val Ala Val Gln Thr Tyr Ser Ala Arg Asn Ala Val Arg
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Thr Val Leu Ala Pro Ala Leu Ala Ser Arg Pro Ala Val Gln Gly Ala
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Val Asp Leu Gly Val Ser Met Ala Gly Gly Leu Ala Ala Asn Ala Gly
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Phe Gly Asn Arg Leu Leu Ser Val Gln Ser Arg Asp His Gln Arg Gly
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Gly Ala Leu Val Leu Gly Leu Lys Asp Lys Glu Pro Lys Ala Gln Leu
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340 345 350

Ala Gly Val Gly Lys Leu Gln Glu Met Ala Thr Lys Asn Ile Thr Asp
355 360 365

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370 375 380

Ala Ala Val Phe Ala Gly Trp Thr Thr Ala Ala Leu Thr Thr Asp Pro
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Lys Thr Val Lys Asp Met Gly Gly Glu Ala Ile Thr His Thr Gly Ala
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Phe Arg Pro Met Arg Ser
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<211> 1074
<212> DNA
<213> Pseudomonas syringae

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<210> 9
<211> 357
<212> PRT
<213> Pseudomonas syringae

<400> 9

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Val	Thr	Val	Asp	Val	Met	Leu	Ile	Glu	Gly	Lys	Gly	Ile	Asp	Phe	Pro
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Leu	Met	Pro	Leu	Thr	Leu	Leu	Cys	Ser	Ala	Leu	Ile	Val	Leu	Ile	Ser
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Phe	Arg	Asn	Ser	Ser	Ala	Tyr	Asn	Arg	Trp	Trp	Glu	Ala	Arg	Thr	Leu
65					70					75					80

Trp	Gly	Ala	Met	Val	Asn	Thr	Ser	Arg	Ser	Phe	Gly	Arg	Gln	Val	Leu
				85					90					95	

Thr	Leu	Ile	Asp	Gly	Glu	Arg	Asp	Asp	Leu	Asn	Asn	Pro	Val	Lys	Ala
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Ile	Leu	Phe	Gln	Arg	His	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Arg	Ala	His
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Leu	Lys	Gly	Asp	Val	Lys	Thr	Ala	Lys	Leu	Asp	Gly	Leu	Leu	Ser	Pro
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Asp Glu Ile Gln Arg Ala Ser Gln Ser Asn Asn Phe Pro Asn Asp Ile
145 150 155 160

Leu Asn Gly Ser Ala Ala Val Ile Ser Gln Ala Phe Ala Ala Gly Gln
165 170 175

Phe Asp Ser Ile Arg Leu Thr Arg Leu Glu Ser Thr Met Val Asp Leu
180 185 190

Ser Asn Cys Gln Gly Gly Met Glu Arg Ile Ala Asn Thr Pro Leu Pro
195 200 205

Tyr Pro Tyr Val Tyr Phe Pro Arg Leu Phe Ser Thr Leu Phe Cys Ile
210 215 220

Leu Met Pro Leu Ser Met Val Thr Thr Leu Gly Trp Phe Thr Pro Ala
225 230 235 240

Ile Ser Thr Val Val Gly Cys Met Leu Leu Ala Met Asp Arg Ile Gly
245 250 255

Thr Asp Leu Gln Ala Pro Phe Gly Asn Ser Gln His Arg Ile Arg Met
260 265 270

Glu Asp Leu Cys Asn Thr Ile Glu Lys Asn Leu Gln Ser Met Phe Ser
275 280 285

Ser Pro Glu Arg Gln Pro Leu Leu Ala Asp Leu Lys Ser Pro Val Pro
290 295 300

Trp Arg Val Ala Asn Ala Ser Ile Gly Gly Leu Ser Arg Gln Lys Asn
305 310 315 320

Arg Leu Gly Glu Gly Ala Arg Leu Ile Ala Ser Glu Ser Leu Leu Trp
325 330 335

Ala Pro Phe Arg Ser Val Ala Asp Val Ala Pro Cys His Ala Ser Ala
340 345 350

Tyr Leu Arg Arg Ala
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<210> 10
<211> 1053
<212> DNA
<213> Pseudomonas syringae

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<210> 11
<211> 350
<212> PRT
<213> Pseudomonas syringae

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Gln His Asp Lys Pro Ser Ser Leu Ser Gly Leu Ala Pro Gly Ser Ser
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Asp Ala Phe Ala Arg Phe His Pro Glu Lys Ala Gly Ala Phe Val Pro
35 40 45

Leu Glu Gly His Glu Glu Val Phe Phe Asp Ala Arg Ser Ser Phe Ser
50 55 60

Ser Val Asp Ala Ala Asp Leu Pro Ser Pro Glu Gln Val Gln Pro Gln
65 70 75 80

Leu His Ser Leu Arg Thr Leu Leu Pro Asp Leu Met Val Ser Ile Ala
85 90 95

Ser Leu Arg Asp Gly Ala Thr Gln Tyr Ile Lys Thr Arg Ile Lys Ala
100 105 110

Met Ala Asp Asn Ser Ile Gly Ala Thr Ala Asn Ile Glu Ala Lys Arg
115 120 125

Lys Ile Ala Gln Glu His Gly Cys Gln Leu Val His Pro Phe His Gln
130 135 140

Ser Lys Phe Leu Phe Glu Lys Thr Ile Asp Asp Arg Ala Phe Ala Ala
145 150 155 160

Asp Tyr Gly Arg Ala Gly Gly Asp Gly His Ala Cys Leu Gly Leu Ser
165 170 175

Val Asn Trp Cys Gln Ser Arg Ala Lys Gly Gln Ser Asp Glu Ala Phe
180 185 190

Phe His Lys Leu Glu Asp Tyr Gln Gly Asp Ala Leu Leu Pro Arg Val
195 200 205

Met Gly Phe Gln His Ile Glu Gln Gln Ala Tyr Ser Asn Lys Leu Gln
210 215 220

Asn Ala Ala Pro Met Leu Leu Asp Thr Leu Pro Lys Leu Gly Met Thr
225 230 235 240

Leu Gly Lys Gly Leu Gly Arg Ala Gln His Ala His Tyr Ala Val Ala
245 250 255

Leu Glu Asn Leu Asp Arg Asp Leu Lys Ala Val Leu Gln Pro Gly Lys
260 265 270

Asp Gln Met Leu Leu Phe Leu Ser Asp Ser His Ala Met Ala Leu His
275 280 285

Gln Asp Ser Gln Gly Cys Leu His Phe Phe Asp Pro Leu Phe Gly Val
290 295 300

Val Gln Ala Asp Ser Phe Ser Asn Met Ser His Phe Leu Ala Asp Val
305 310 315 320

Phe Lys Arg Asp Val Gly Thr His Trp Arg Gly Thr Glu Gln Arg Leu
325 330 335

Gln Leu Ser Glu Met Val Pro Arg Ala Asp Phe His Leu Arg
340 345 350

<210> 12
<211> 480

<212> DNA
<213> Pseudomonas syringae

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caggacaacg tcattttgat tctggcaatg gcgctgaatc tggagcctgc tcgcacaggt 240
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<210> 13
<211> 159
<212> PRT
<213> Pseudomonas syringae

<400> 13
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Arg Gly Ile Asp Ala Gln Glu Gly Gln Arg His Asn Val Arg Thr Ala
20 25 30

Asn Gly Ser Glu Cys Leu Leu Trp Leu Pro Glu Gln Asp Thr Ser Leu
35 40 45

Phe Ile Phe Thr Gln Ile Glu Arg Leu Thr Met Pro Gln Asp Asn Val
50 55 60

Ile Leu Ile Leu Ala Met Ala Leu Asn Leu Glu Pro Ala Arg Thr Gly
65 70 75 80

Gly Ala Ala Leu Gly Tyr Asn Pro Asp Ser Arg Glu Leu Leu Leu Arg
85 90 95

Ser Val His Ser Met Ala Asp Leu Asp Glu Thr Gly Leu Asp His Leu
100 105 110

Met Thr Arg Ile Ser Thr Leu Ala Val Ser Leu Gln Arg Tyr Leu Glu
115 120 125

Asp Tyr Arg Arg Gln Glu Gln Ala Gly Lys Thr Ala Gln Lys Glu Pro
130 135 140

Arg Phe Leu Pro Ala Val His Leu Thr Pro Arg Thr Phe Met Thr

145 150 155

<210> 14
<211> 288
<212> DNA
<213> Pseudomonas syringae

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ggaacccata acggagggca gagttggccc atacttatag acgtgccgtt ttccctcgcg 180
ttggacacac tgctgctgcc ctacgacctc accgcttttc tgcccgaaaa tcttggcggt 240
gatgaccgca aatgtcagtt cagtggagga ttgaacgtgc tcggttga 288

<210> 15
<211> 95
<212> PRT
<213> Pseudomonas syringae

<400> 15
Met Leu Lys Lys Cys Leu Leu Leu Val Ile Ser Met Ser Leu Gly Gly
1 5 10 15

Cys Trp Ser Leu Met Ile His Leu Asp Gly Glu Arg Cys Ile Tyr Pro
20 25 30

Gly Thr Arg Gln Gly Trp Ala Trp Gly Thr His Asn Gly Gly Gln Ser
35 40 45

Trp Pro Ile Leu Ile Asp Val Pro Phe Ser Leu Ala Leu Asp Thr Leu
50 55 60

Leu Leu Pro Tyr Asp Leu Thr Ala Phe Leu Pro Glu Asn Leu Gly Gly
65 70 75 80

Asp Asp Arg Lys Cys Gln Phe Ser Gly Gly Leu Asn Val Leu Gly
85 90 95

<210> 16
<211> 447
<212> DNA
<213> Pseudomonas syringae

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cgacttgtgg agcatgcggc gcaggaattt ttcgccgtgc gcctgttcac tgatactccg 360
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catataaagc ttttaaggcg ggtttga 447

<210> 17
<211> 148
<212> PRT
<213> Pseudomonas syringae

<400> 17
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Leu Ile Leu Glu Gln Glu Ala Val Ala Glu Gly Phe Arg Phe Leu Thr
20 25 30

Arg Leu Ile Glu Glu Trp Arg Ser Gly Lys Asn Arg Phe Glu Ala Lys
35 40 45

Gly Glu Cys Leu Met Val Val Leu Leu Asp Gly Ala Leu Ala Gly Ile
50 55 60

Gly Gly Leu Ser Arg Asp Pro His Ala Arg Gly Asp Met Gly Arg Leu
65 70 75 80

Arg Arg Leu Tyr Val Ala Ser Ala Ser Arg Gly Gln Gly Leu Gly Lys
85 90 95

Thr Leu Val Asn Arg Leu Val Glu His Ala Ala Gln Glu Phe Phe Ala
100 105 110

Val Arg Leu Phe Thr Asp Thr Pro Ser Gly Ala Lys Phe Tyr Leu Arg
115 120 125

Cys Gly Phe Gln Ala Val Asp Glu Val His Ala Thr His Ile Lys Leu
130 135 140

Leu Arg Arg Val
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<210> 18
<211> 11458

<212> DNA
<213> Pseudomonas syringae

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<223> n at any position is undefined

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<210> 19
<211> 1401
<212> DNA
<213> Pseudomonas syringae

<400> 19
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<210> 20
<211> 466
<212> PRT
<213> Pseudomonas syringae

<400> 20

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Glu Ala Glu Arg Pro Thr Ala Gln Ala Ala Gly Asn Asp Arg Ala Arg
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Ser Ser Gln Ala Ser Ser Ser Pro Ala Ala Ser Val Ala Pro Glu Thr
35 40 45

Pro Met Leu Gly Asp Leu Lys Arg Phe Pro Ala Gly Arg Tyr Pro Asp
50 55 60

Met Lys Val Glu Asn Ile Arg Leu Lys Ile Glu Gly Gln Glu Pro Gly
65 70 75 80

Gly Lys Asp Gly Val Lys His Thr Arg Arg Arg Lys Pro Asp Ala Ala
85 90 95

Gly Ser Ser His Val His Gly Gly Gln Ser Val Ala Ser Thr Ser Ala
100 105 110

Ser Ala Gln Ser Lys Ala Leu Gln Asp Thr Asn Phe Lys Ala Ser Asp
115 120 125

Leu Ala Glu Leu Ala Arg Trp Cys Glu Ser Pro His Pro Tyr Ala Leu
130 135 140

Ala Pro Ser Lys Ala Ala Gly Lys Ser Ser Gln Leu Ser Ala Asn Val
145 150 155 160

Val Ser Ile Leu Leu Gln Glu Gly Lys His Ala Leu Glu Gln Arg Leu
165 170 175

Glu Ala Gln Gly Leu Lys Leu Ala Asp Val Val Val Ser Glu Gly Arg
180 185 190

Asp His Leu His Ile Asn Leu Asn Tyr Leu Glu Met Asp Ser Cys Leu
195 200 205

Gly Thr Ser Lys Gly Leu Trp Ala Pro Asp Ser Asn Asp Lys Lys Leu
210 215 220

Ile Ala Lys Ala Ala Arg Tyr Phe Asp Asp Phe Asn Ala Gln Lys Leu
225 230 235 240

Pro Glu Leu Ala Pro Leu Thr Lys Met Lys Ser Lys Asp Ser Leu Gly
245 250 255

Val Met Arg Glu Leu Leu Arg Asp Ala Pro Gly Leu Val Ile Gly Glu
260 265 270

Gly His Asn Ser Thr Ser Ser Lys Arg Glu Leu Ile Asn Asn Met Lys
275 280 285

Ser Leu Lys Ala Ser Gly Val Thr Thr Leu Phe Met Glu His Leu Cys
290 295 300

Ala Glu Ser His Asp Lys Ala Leu Asn Asn Tyr Leu Ser Ala Pro Lys
305 310 315 320

Gly Ser Pro Met Pro Ala Arg Leu Lys Asn Tyr Leu Asp Leu Gln Ser
325 330 335

Gln Gly His Gln Ala Pro Glu Glu Leu His Thr Lys Tyr Asn Phe Thr
340 345 350

Thr Leu Val Glu Ala Ala Lys His Ala Gly Leu Arg Val Val Ser Leu
355 360 365

Asp Thr Thr Ser Thr Tyr Met Ala Pro Glu Lys Ala Glu Ile Lys Arg
370 375 380

Ala Gln Ala Met Asn Tyr Tyr Ala Ala Glu Lys Ile Arg Leu Ser Lys
385 390 395 400

Pro Glu Gly Lys Trp Val Ala Phe Val Gly Ala Thr His Ala Thr Ser
405 410 415

Cys Asp Gly Val Pro Gly Leu Ala Glu Leu His Gly Val Arg Ser Leu
420 425 430

Val Ile Asp Asp Leu Gly Leu Lys Ser Arg Ala Thr Val Asp Ile Asn
435 440 445

Val Lys Asn Tyr Gly Gly Lys Leu Asn Pro Asp Val Arg Leu Ser Tyr
450 455 460

Lys Val
465

<210> 21
<211> 726
<212> DNA
<213> Pseudomonas syringae

<400> 21
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ccgtaccgct caaacatgtt ggtgggctca gcgaatgtac ctgaacaatt agtcatcgac 300
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ggataa 726

<210> 22
<211> 241
<212> PRT
<213> Pseudomonas syringae

<400> 22
Met Gln Lys Thr Thr Leu Trp Ala Leu Ala Phe Ala Met Leu Ala Gly
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Cys Gly Val Ser Gly Pro Ala Pro Gly Ser Asp Ile Gln Gly Ala Gln
20 25 30

Ala Glu Met Lys Thr Pro Val Lys Leu Asn Leu Asp Ala Tyr Thr Ser
35 40 45

Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Thr Asn Lys Ser Tyr Met
50 55 60

Asn Lys Gly Gln Leu Ile Asp Leu Val Ser Gly Ala Phe Leu Gly Thr
65 70 75 80

Pro Tyr Arg Ser Asn Met Leu Val Gly Ser Ala Asn Val Pro Glu Gln
85 90 95

Leu Val Ile Asp Phe Arg Gly Leu Asp Cys Phe Ala Tyr Leu Asp Tyr
100 105 110

Val Glu Ala Phe Arg Arg Ser Thr Ser Gln Gln Asp Phe Val Arg Asn
115 120 125

Leu Val Gln Val Arg Tyr Lys Gly Gly Asp Val Asp Phe Leu Asn Arg
130 135 140

Lys His Phe Phe Thr Asp Trp Ala Tyr Gly Thr Ala Tyr Pro Val Ala
145 150 155 160

Asp Asp Ile Thr Ala Gln Ile Ser Pro Gly Ala Val Ser Val Arg Lys
165 170 175

Arg Leu Asn Glu Arg Ala Lys Gly Lys Val Tyr Leu Pro Gly Leu Pro
180 185 190

Val Val Glu Arg Ser Met Thr Tyr Ile Pro Ser Arg Leu Val Asp Ser
195 200 205

Gln Val Val Ser His Leu Arg Thr Gly Asp Tyr Ile Gly Ile Tyr Thr
210 215 220

Pro Ala Ser Arg Ala Gly Cys Asp Thr Arg Arg Phe Leu Tyr Arg Asp
225 230 235 240

Gly

<210> 23
<211> 417
<212> DNA
<213> Pseudomonas syringae

<400> 23
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aaagatctcg acaacgacaa caaaaccgat gcggctttcg gtggaaatga ccgcgatctt 360
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<210> 24
<211> 138
<212> PRT
<213> Pseudomonas syringae

<400> 24
Met Arg Ala Tyr Lys Asn Leu Thr Ala Lys Ile Gly Gly Phe Leu Leu
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Ala Leu Thr Ile Ile Gly Thr Ser Leu Pro Ala Phe Ala Val Asn Asp

20 25 30

Cys Asp Leu Asp Asn Asp Asn Ser Thr Gly Ala Thr Cys Gly Gly Asn
35 40 45

Asp Lys Asp Leu Asp Asn Asp Asn Val Thr Asp Ala Ala Phe Gly Gly
50 55 60

Asn Asp Lys Asp Met Asp Asn Asp His His Thr Asp Ala Ala Phe Gly
65 70 75 80

Gly Asn Asp Lys Asp Leu Asp Asn Asp His His Thr Asp Ala Ala Phe
85 90 95

Gly Gly Asn Asp Lys Asp Leu Asp Asn Asp Asn Lys Thr Asp Ala Ala
100 105 110

Phe Gly Gly Asn Asp Arg Asp Leu Asp Asn Asp Asn Asn Thr Asp Asn
115 120 125

Tyr Asn Gly Thr Pro Ser Ala Ala Lys Lys
130 135

<210> 25
<211> 411
<212> DNA
<213> Pseudomonas syringae

<400> 25
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gagacccagt ggcagcaaac cgggtggtct gattgtcaga tagacggtga acggctatcg 180
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aatagaactg aactaagccc aggagaccag tcctatgtct tcggctatgg ctacagcttc 360
accgaaggcg tgacgctggt ggcgaaaaaa tttcagtcgt ctgcaagctg a 411

<210> 26
<211> 136
<212> PRT
<213> Pseudomonas syringae

<400> 26
Met Asn Lys Ile Val Tyr Val Lys Ala Tyr Phe Lys Pro Ile Gly Glu
1 5 10 15

Glu Val Ser Val Lys Val Pro Thr Gly Glu Ile Lys Lys Gly Phe Phe
20 25 30

Gly Asp Lys Glu Ile Met Lys Lys Glu Thr Gln Trp Gln Gln Thr Gly
35 40 45

Trp Ser Asp Cys Gln Ile Asp Gly Glu Arg Leu Ser Lys Asp Val Glu
50 55 60

Asp Ala Val Ala Gln Leu Asn Ala Asp Gly Tyr Glu Ile Gln Thr Val
65 70 75 80

Leu Pro Ile Leu Ser Gly Ala Tyr Asp Tyr Ala Leu Lys Tyr Arg Tyr
85 90 95

Glu Ile Arg His Asn Arg Thr Glu Leu Ser Pro Gly Asp Gln Ser Tyr
100 105 110

Val Phe Gly Tyr Gly Tyr Ser Phe Thr Glu Gly Val Thr Leu Val Ala
115 120 125

Lys Lys Phe Gln Ser Ser Ala Ser
130 135

<210> 27
<211> 972
<212> DNA
<213> Pseudomonas syringae

<400> 27
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gaacataact ga 972

<210> 28
<211> 323
<212> PRT
<213> Pseudomonas syringae

<400> 28
Met Gly Cys Val Ser Ser Lys Ala Ser Val Ile Ser Ser Asp Ser Phe
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Arg Ala Ser Tyr Thr Asn Ser Pro Glu Ala Ser Ser Val His Gln Arg
20 25 30

Ala Arg Thr Pro Arg Cys Gly Glu Leu Gln Gly Pro Gln Val Ser Arg
35 40 45

Leu Met Pro Tyr Gln Gln Ala Leu Val Gly Val Ala Arg Trp Pro Asn
50 55 60

Pro His Phe Asn Arg Asp Asp Ala Pro His Gln Met Glu Tyr Gly Glu
65 70 75 80

Ser Phe Tyr His Lys Ser Arg Glu Leu Gly Ala Ser Val Ala Asn Gly
85 90 95

Glu Ile Glu Thr Phe Gln Glu Leu Trp Ser Glu Ala Arg Asp Trp Arg
100 105 110

Ala Ser Arg Ala Gly Gln Asp Ala Arg Leu Phe Ser Ser Ser Arg Asp
115 120 125

Pro Asn Ser Ser Arg Ala Phe Val Thr Pro Ile Thr Gly Pro Tyr Glu
130 135 140

Phe Leu Lys Asp Arg Phe Ala Asn Arg Lys Asp Gly Glu Lys His Lys
145 150 155 160

Met Met Asp Phe Leu Pro His Ser Asn Thr Phe Arg Phe His Gly Lys
165 170 175

Ile Asp Gly Glu Arg Leu Pro Leu Thr Trp Ile Ser Ile Ser Ser Asp
180 185 190

Arg Arg Ala Asp Arg Thr Lys Asp Pro Tyr Gln Arg Leu Arg Asp Gln
195 200 205

Gly Met Asn Asp Val Gly Glu Pro Asn Val Met Leu His Thr Gln Ala

210 215 220

Glu Tyr Val Pro Lys Ile Met Gln His Val Glu His Leu Tyr Lys Ala
225 230 235 240

Ala Thr Asp Ala Ala Leu Ser Asp Ala Asn Ala Leu Lys Lys Leu Ala
245 250 255

Glu Ile His Trp Trp Thr Val Gln Ala Val Pro Asp Phe Arg Gly Ser
260 265 270

Ala Ala Lys Ala Glu Leu Cys Val Arg Ser Ile Ala Gln Ala Arg Gly
275 280 285

Met Asp Leu Pro Pro Met Arg Leu Gly Ile Val Pro Asp Leu Glu Ala
290 295 300

Leu Thr Met Pro Leu Lys Asp Phe Val Lys Ser Tyr Glu Gly Phe Phe
305 310 315 320

Glu His Asn

<210> 29
<211> 1149
<212> DNA
<213> Pseudomonas syringae

<400> 29
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cctggctacc tgctgttacg tcggcttgat cgtcgtccgc tggaccagga cgcaataaag 300
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gcaagacgcc tgagaaaaga cgccgagacg gcgggtcatg agccgatgcc cgagaacgaa 480
gacatgaact ggcatgtgct ggttgccatg tcgggtcagg tgttcggggc tggcaactgt 540
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gctggcgatg aaaatattca tctggctgcg cagagcgggg aagatcatgt ctgggctgaa 660
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gccgtttttg cagaggacag tcggtttgct aaagataggc gcgcggtaga gcgaacggat 780
tcgttcacgc tttcaaccgc tgccaaagca ggcaagatta cacgagagac agccgagaag 840
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tcgccggttg aaggtggtcg ctatcggcaa gaaaactcgg tgcttgatga tgcgttcgcc 960
cgacgagtca gtgacatgtt gaacaatgcc gatccacggc gtgcattgca ggtggaaatc 1020
gaggcgtccg gagttgcaat gtcgctgggt gcccaaggcg tcaagacggt cgtccgacag 1080

gcgccaaaag tggtcaggca agccagaggc gtcgcatctg ctaaaggtat gtctccgcga 1140
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<210> 30
<211> 382
<212> PRT
<213> Pseudomonas syringae

<400> 30

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Met Arg Ile His Ser Ser Gly His Gly Ile Ser Gly Pro Val Ser Ser
  1               5                  10                  15

Ala Glu Thr Val Glu Lys Ala Val Gln Ser Ser Ala Gln Ala Gln Asn
             20                  25                  30

Glu Ala Ser His Ser Gly Pro Ser Glu His Pro Glu Ser Arg Ser Cys
         35                  40                  45

Gln Ala Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro
     50                  55                  60

Pro Val Ala Ser Ala Gly Gln Ser Leu Ser Glu Thr Pro Ser Ser Leu
 65                  70                  75                  80

Pro Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Gln
                 85                  90                  95

Asp Ala Ile Lys Gly Leu Ile Pro Ala Asp Glu Ala Val Gly Glu Ala
            100                 105                 110

Arg Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln
        115                 120                 125

Arg Ser Asn Leu Glu Ser Gly Ala Arg Thr Leu Ala Ala Arg Arg Leu
    130                 135                 140

Arg Lys Asp Ala Glu Thr Ala Gly His Glu Pro Met Pro Glu Asn Glu
145                 150                 155                 160

Asp Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly
                165                 170                 175

Ala Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly
            180                 185                 190

Ala Ser Ala Gln Glu Lys Gly Arg Ala Gly Asp Glu Asn Ile His Leu
        195                 200                 205
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Ala Ala Gln Ser Gly Glu Asp His Val Trp Ala Glu Thr Asp Asp Ser
210 215 220

Ser Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Pro
225 230 235 240

Ala Val Phe Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Arg Ala Val
245 250 255

Glu Arg Thr Asp Ser Phe Thr Leu Ser Thr Ala Ala Lys Ala Gly Lys
260 265 270

Ile Thr Arg Glu Thr Ala Glu Lys Ala Leu Thr Gln Ala Thr Ser Arg
275 280 285

Leu Gln Gln Arg Leu Ala Asp Gln Gln Ala Gln Val Ser Pro Val Glu
290 295 300

Gly Gly Arg Tyr Arg Gln Glu Asn Ser Val Leu Asp Asp Ala Phe Ala
305 310 315 320

Arg Arg Val Ser Asp Met Leu Asn Asn Ala Asp Pro Arg Arg Ala Leu
325 330 335

Gln Val Glu Ile Glu Ala Ser Gly Val Ala Met Ser Leu Gly Ala Gln
340 345 350

Gly Val Lys Thr Val Val Arg Gln Ala Pro Lys Val Val Arg Gln Ala
355 360 365

Arg Gly Val Ala Ser Ala Lys Gly Met Ser Pro Arg Ala Thr
370 375 380

<210> 31
<211> 1236
<212> DNA
<213> Pseudomonas syringae

<400> 31
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caggatgcgc tgccaacgga tatcagatac aacgccaacc agacagcgac atcaccgcaa 180
aacgcgcgcg cggcaggaag atatgaatca ggggccagct catccggcgc gaatgatact 240
ccgcaggctg aaggttcaat gccttcgtcg tccgcccttt tacaatttcg cctcgccggc 300
gggcggaacc attctgagct ggaaaatttt catactatga tgctgaactc accgaaagca 360
tcacggggag atgctatacc tgagaagccc gaagcaatac ctaagcgcct actggagaag 420

atggaaccga ttaacctggc ccagttagct ttgcgtgata aggatctgca tgaatatgcc 480
gtaatggtct gtaaccaagt gaaaaagggt gaaggtccga actccaatat tacgcaagga 540
gatatcaagt tactgccgct gttcgccaaa gcggaaaata caagaaatcc cggcttgaat 600
ctgcatacat tcaaaagtca taaagactgt taccaggcga taaaagagca aaacagggat 660
attcaaaaaa acaagcaatc gctgagtatg cgggttgttt acccccccatt caaaaagatg 720
ccagaccacc atatagcctt ggatatccaa ctgagatacg gccatcgacc gtcgattgtc 780
ggctttgagt ctgcccctgg gaacattata gatgctgcag aaagggaaat actttcagca 840
ttaggcaacg tcaaaatcaa aatggtagga aattttcttc aatactcgaa aactgactgc 900
accatgtttg cgcttaataa cgccctgaaa gcttttaaac atcacgaaga atataccgcc 960
cgtctgcaca atggagaaaa gcaggtgcct atcccggcga ccttcttgaa acatgctcag 1020
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ggtctgcata tggaaacgct attacacaga aaccgtgcct accgggcgca acgatctgcc 1140
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ttccttgccg caaacagggt ccgggccaag ccttga 1236

<210> 32
<211> 411
<212> PRT
<213> Pseudomonas syringae

<400> 32
Met Asn Ile Ser Gly Pro Asn Arg Arg Gln Gly Thr Gln Ala Glu Asn
1 5 10 15

Thr Glu Ser Ala Ser Ser Ser Ser Val Thr Asn Pro Pro Leu Gln Arg
20 25 30

Gly Glu Gly Arg Arg Leu Arg Arg Gln Asp Ala Leu Pro Thr Asp Ile
35 40 45

Arg Tyr Asn Ala Asn Gln Thr Ala Thr Ser Pro Gln Asn Ala Arg Ala
50 55 60

Ala Gly Arg Tyr Glu Ser Gly Ala Ser Ser Ser Gly Ala Asn Asp Thr
65 70 75 80

Pro Gln Ala Glu Gly Ser Met Pro Ser Ser Ser Ala Leu Leu Gln Phe
85 90 95

Arg Leu Ala Gly Gly Arg Asn His Ser Glu Leu Glu Asn Phe His Thr
100 105 110

Met Met Leu Asn Ser Pro Lys Ala Ser Arg Gly Asp Ala Ile Pro Glu
115 120 125

Lys Pro Glu Ala Ile Pro Lys Arg Leu Leu Glu Lys Met Glu Pro Ile
130 135 140

Asn Leu Ala Gln Leu Ala Leu Arg Asp Lys Asp Leu His Glu Tyr Ala
145 150 155 160

Val Met Val Cys Asn Gln Val Lys Lys Gly Glu Gly Pro Asn Ser Asn
165 170 175

Ile Thr Gln Gly Asp Ile Lys Leu Leu Pro Leu Phe Ala Lys Ala Glu
180 185 190

Asn Thr Arg Asn Pro Gly Leu Asn Leu His Thr Phe Lys Ser His Lys
195 200 205

Asp Cys Tyr Gln Ala Ile Lys Glu Gln Asn Arg Asp Ile Gln Lys Asn
210 215 220

Lys Gln Ser Leu Ser Met Arg Val Val Tyr Pro Pro Phe Lys Lys Met
225 230 235 240

Pro Asp His His Ile Ala Leu Asp Ile Gln Leu Arg Tyr Gly His Arg
245 250 255

Pro Ser Ile Val Gly Phe Glu Ser Ala Pro Gly Asn Ile Ile Asp Ala
260 265 270

Ala Glu Arg Glu Ile Leu Ser Ala Leu Gly Asn Val Lys Ile Lys Met
275 280 285

Val Gly Asn Phe Leu Gln Tyr Ser Lys Thr Asp Cys Thr Met Phe Ala
290 295 300

Leu Asn Asn Ala Leu Lys Ala Phe Lys His His Glu Glu Tyr Thr Ala
305 310 315 320

Arg Leu His Asn Gly Glu Lys Gln Val Pro Ile Pro Ala Thr Phe Leu
325 330 335

Lys His Ala Gln Ser Lys Ser Leu Val Glu Asn His Pro Glu Lys Asp
340 345 350

Thr Thr Val Thr Lys Asp Gln Gly Gly Leu His Met Glu Thr Leu Leu
355 360 365

His Arg Asn Arg Ala Tyr Arg Ala Gln Arg Ser Ala Gly Gln His Val
370 375 380

Thr Ser Ile Glu Gly Phe Arg Met Gln Glu Ile Lys Arg Ala Gly Asp
385 390 395 400

Phe Leu Ala Ala Asn Arg Val Arg Ala Lys Pro
405 410

<210> 33
<211> 363
<212> DNA
<213> Pseudomonas syringae

<400> 33
atgacgctgg aacggattga acagcaaaat acgctgtttg tttatctgtg cgtgggcacg 60
ctttctactc cagccagcag cacacttctg agcgatattc tggccgccaa cctctttcat 120
tatgggtcca gcgatggggc ggccttcggg ctggacgaaa aaaataatga agtgctgctt 180
tttcagcggt ttgatccgtt acggattgat gaggatcact ttgtcagcgc ctgcgttcag 240
atgatcgaag tggcgaaaat atggcgggca aagttactgc atggccattc tgctccgctc 300
gcctcctcaa ccaggctgac gaaagccggt ttaatgctaa ccatggcggg gactattcga 360
tga 363

<210> 34
<211> 120
<212> PRT
<213> Pseudomonas syringae

<400> 34
Met Thr Leu Glu Arg Ile Glu Gln Gln Asn Thr Leu Phe Val Tyr Leu
1 5 10 15

Cys Val Gly Thr Leu Ser Thr Pro Ala Ser Ser Thr Leu Leu Ser Asp
20 25 30

Ile Leu Ala Ala Asn Leu Phe His Tyr Gly Ser Ser Asp Gly Ala Ala
35 40 45

Phe Gly Leu Asp Glu Lys Asn Asn Glu Val Leu Leu Phe Gln Arg Phe
50 55 60

Asp Pro Leu Arg Ile Asp Glu Asp His Phe Val Ser Ala Cys Val Gln
65 70 75 80

Met Ile Glu Val Ala Lys Ile Trp Arg Ala Lys Leu Leu His Gly His
85 90 95

Ser Ala Pro Leu Ala Ser Ser Thr Arg Leu Thr Lys Ala Gly Leu Met
100 105 110

Leu Thr Met Ala Gly Thr Ile Arg

115 120

<210> 35
<211> 1128
<212> DNA
<213> Pseudomonas syringae

<400> 35
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attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcgtta cgagattcgt 120
gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgccca aatagcccag 240
gtactcaacg agaaagcggc ggcagttcca cgcctggaca gaatgttggg cagacgcttc 300
gatctggaga agggcggaag tagcgctgtg ggcgccgcaa tcaaggctgc cgacagccga 360
ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
gggcgatacc gaaatcggta tctacatgat ctacaagagg gacacgccag acacaacgcc 480
tatgaatgcg gcagagtcaa gaacattacc tggaaacgct acaggctctc gataacaaga 540
aaaaccttat catacgcccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaaatc tgtgacacaa 780
ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
aatggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcggtatc 900
cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcggtctt 960
tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacgtt 1020
atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
gaaagaggct atgacccgga aaatccggcg ctcagggcgc gaaactga 1128

<210> 36
<211> 375
<212> PRT
<213> Pseudomonas syringae

<400> 36
Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
1 5 10 15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
20 25 30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
35 40 45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
50 55 60

Ala Ala His Leu Ile Gly Gly Gln Ser Gln Arg Ala Gln Ile Ala Gln
65 70 75 80

Val Leu Asn Glu Lys Ala Ala Ala Val Pro Arg Leu Asp Arg Met Leu
85 90 95

Gly Arg Arg Phe Asp Leu Glu Lys Gly Gly Ser Ser Ala Val Gly Ala
100 105 110

Ala Ile Lys Ala Ala Asp Ser Arg Leu Thr Ser Lys Gln Thr Phe Ala
115 120 125

Ser Phe Gln Gln Trp Ala Glu Lys Ala Glu Ala Leu Gly Arg Tyr Arg
130 135 140

Asn Arg Tyr Leu His Asp Leu Gln Glu Gly His Ala Arg His Asn Ala
145 150 155 160

Tyr Glu Cys Gly Arg Val Lys Asn Ile Thr Trp Lys Arg Tyr Arg Leu
165 170 175

Ser Ile Thr Arg Lys Thr Leu Ser Tyr Ala Pro Gln Ile His Asp Asp
180 185 190

Arg Glu Glu Glu Glu Leu Asp Leu Gly Arg Tyr Ile Ala Glu Asp Arg
195 200 205

Asn Ala Arg Thr Gly Phe Phe Arg Met Val Pro Lys Asp Gln Arg Ala
210 215 220

Pro Glu Thr Asn Ser Gly Arg Leu Thr Ile Gly Val Glu Pro Lys Tyr
225 230 235 240

Gly Ala Gln Leu Ala Leu Ala Met Ala Thr Leu Met Asp Lys His Lys
245 250 255

Ser Val Thr Gln Gly Lys Val Val Gly Pro Ala Lys Tyr Gly Gln Gln
260 265 270

Thr Asp Ser Ala Ile Leu Tyr Ile Asn Gly Asp Leu Ala Lys Ala Val
275 280 285

Lys Leu Gly Glu Lys Leu Lys Lys Leu Ser Gly Ile Pro Pro Glu Gly
290 295 300

Phe Val Glu His Thr Pro Leu Ser Met Gln Ser Thr Gly Leu Gly Leu
305 310 315 320

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
355 360 365

Pro Ala Leu Arg Ala Arg Asn
370 375

<210> 37
<211> 336
<212> DNA
<213> Pseudomonas syringae

<400> 37
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gcattcgctc tgacgctgtt gcgcgacgac acgcatcaac gtttgttgct gattggtctg 120
cttgagccac acgaggatct acccttgcag cgcctgttgg ctggcgctct caacccgctt 180
gtgaatgccg gccccggcat tggctgggat gagcaaagcg gcctgtacca cgcttaccaa 240
agcatcccgc gggaaaaagt cagcgtggag atgctgaagc tcgaaattgc aggattggtc 300
gaatggatga agtgttggcg agaagcccgc acgtga 336

<210> 38
<211> 111
<212> PRT
<213> Pseudomonas syringae

<400> 38
Met Glu Met Pro Ala Leu Ala Phe Asp Asp Lys Gly Ala Cys Asn Met
1 5 10 15

Ile Ile Asp Lys Ala Phe Ala Leu Thr Leu Leu Arg Asp Asp Thr His
20 25 30

Gln Arg Leu Leu Leu Ile Gly Leu Leu Glu Pro His Glu Asp Leu Pro
35 40 45

Leu Gln Arg Leu Leu Ala Gly Ala Leu Asn Pro Leu Val Asn Ala Gly
50 55 60

Pro Gly Ile Gly Trp Asp Glu Gln Ser Gly Leu Tyr His Ala Tyr Gln
65 70 75 80

Ser Ile Pro Arg Glu Lys Val Ser Val Glu Met Leu Lys Leu Glu Ile
85 90 95

Ala Gly Leu Val Glu Trp Met Lys Cys Trp Arg Glu Ala Arg Thr
100 105 110

<210> 39
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. angulata

<400> 39
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gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttacagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagta cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 40
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. angulata

<400> 40
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Tyr Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln

35 40 45

Val Arg Leu Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Ala Thr Pro Ser Ser Leu Pro
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Thr Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly

290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 41
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. glycinea

<400> 41
atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgtagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttgcgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 42
<211> 380

<212> PRT
<213> Pseudomonas syringae pv. glycinea

<400> 42

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Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
  1               5                  10                  15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
             20                  25                  30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
         35                  40                  45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
     50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Ser
 65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                 85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Val Ala
225                 230                 235                 240
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Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 43
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. tabaci

<400> 43
atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
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aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
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gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780

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ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 44
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. tabaci

<400> 44

Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
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Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 45
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. tabaci

<400> 45
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cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
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aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
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gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
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ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 46
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. tabaci

<400> 46
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
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Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg

115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg

370 375 380

<210> 47
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. glycinea

<400> 47
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gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgcccct cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
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gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
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attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
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ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 48
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. glycinea

<400> 48
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Ser
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Val Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 49
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. phaseolicola

<400> 49
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cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgccc 240
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gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
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gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 50
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. phaseolicola

<400> 50

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Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
 1               5                  10                  15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
            20                  25                  30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
        35                  40                  45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
    50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
                245                 250                 255
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Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 51
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. angulata

<400> 51
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gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttacagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagta cggtagagcg aacatattca 780
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gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 52
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. angulata

<400> 52

Met	Arg	Ile	His	Ser	Ala	Gly	His	Ser	Leu	Pro	Ala	Pro	Gly	Pro	Ser
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Val	Glu	Thr	Thr	Glu	Lys	Ala	Val	Gln	Ser	Ser	Ser	Ala	Gln	Asn	Pro
			20					25					30		
Ala	Ser	Tyr	Ser	Ser	Gln	Thr	Glu	Arg	Pro	Glu	Ala	Gly	Ser	Thr	Gln
		35					40					45			
Val	Arg	Leu	Asn	Tyr	Pro	Tyr	Ser	Ser	Val	Lys	Thr	Arg	Leu	Pro	Pro
	50					55					60				
Val	Ser	Ser	Thr	Gly	Gln	Ala	Ile	Ser	Ala	Thr	Pro	Ser	Ser	Leu	Pro
65					70					75					80
Gly	Tyr	Leu	Leu	Leu	Arg	Arg	Leu	Asp	Arg	Arg	Pro	Leu	Asp	Glu	Asp
				85					90					95	
Ser	Ile	Lys	Ala	Leu	Val	Pro	Ala	Asp	Glu	Ala	Val	Arg	Glu	Ala	Arg
			100					105					110		
Arg	Ala	Leu	Pro	Phe	Gly	Arg	Gly	Asn	Ile	Asp	Val	Asp	Ala	Gln	Arg
		115					120					125			
Thr	His	Leu	Gln	Ser	Gly	Ala	Arg	Ala	Val	Ala	Ala	Lys	Arg	Leu	Arg
	130					135					140				
Lys	Asp	Ala	Glu	Arg	Ala	Gly	His	Glu	Pro	Met	Pro	Gly	Asn	Asp	Glu
145					150					155					160
Met	Asn	Trp	His	Val	Leu	Val	Ala	Met	Ser	Gly	Gln	Val	Phe	Gly	Ala
				165					170					175	
Gly	Asn	Cys	Gly	Glu	His	Ala	Arg	Ile	Ala	Ser	Phe	Ala	Tyr	Gly	Ala
			180					185					190		
Leu	Ala	Gln	Glu	Ser	Gly	Arg	Ser	Pro	Arg	Glu	Lys	Ile	His	Leu	Ala

195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Thr Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 53
<211> 1155
<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 53
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ccatcagaga cttctgatgc ccgtccgtcc agtgtgcgta cgaactaccc ttattcatca 180
gtcaaaacac ggttgcctcc cgttgcgtct gcagggcagc cactgtccgg gatgccgtct 240
tcattacccg gctacttgct gttacgtcgg cttgaccatc gtccactgga tcaagacggt 300
atcaaaggtt tgattccagc agatgaagcg gtgggtgaag cacgtcgcgc gttgcctttc 360

ggcaggggca atatcgacgt ggatgcgcaa cgctccaact tggaaagcgg agcccgcaca 420
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aactgcgggg aacatgcccg catagcgagt ttcgcctacg gtgcactggc tcaggaaaaa 600
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<210> 54
<211> 384
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 54

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1				5				10					15		
Ile	Glu	Ser	Ala	Gly	Lys	Thr	Ala	Gln	Ser	Ser	Leu	Ala	Gln	Pro	Gln
			20				25					30			
Ser	Gln	Arg	Ala	Thr	Pro	Val	Ser	Pro	Ser	Glu	Thr	Ser	Asp	Ala	Arg
		35					40					45			
Pro	Ser	Ser	Val	Arg	Thr	Asn	Tyr	Pro	Tyr	Ser	Ser	Val	Lys	Thr	Arg
	50					55					60				
Leu	Pro	Pro	Val	Ala	Ser	Ala	Gly	Gln	Pro	Leu	Ser	Gly	Met	Pro	Ser
65					70					75					80
Ser	Leu	Pro	Gly	Tyr	Leu	Leu	Leu	Arg	Arg	Leu	Asp	His	Arg	Pro	Leu
				85					90					95	
Asp	Gln	Asp	Gly	Ile	Lys	Gly	Leu	Ile	Pro	Ala	Asp	Glu	Ala	Val	Gly
			100					105					110		
Glu	Ala	Arg	Arg	Ala	Leu	Pro	Phe	Gly	Arg	Gly	Asn	Ile	Asp	Val	Asp
		115					120					125			
Ala	Gln	Arg	Ser	Asn	Leu	Glu	Ser	Gly	Ala	Arg	Thr	Leu	Ala	Ala	Arg
	130					135					140				

Arg Leu Arg Lys Asp Ala Glu Ala Ala Gly His Glu Pro Met Pro Ala
145 150 155 160

Asn Glu Asp Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val
165 170 175

Phe Gly Ala Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala
180 185 190

Tyr Gly Ala Leu Ala Gln Glu Lys Gly Arg Asn Ala Asp Glu Thr Ile
195 200 205

His Leu Ala Ala Gln Arg Gly Lys Asp His Val Trp Ala Glu Thr Asp
210 215 220

Asn Ser Ser Ala Gly Ser Ser Pro Val Val Met Asp Pro Trp Ser Asn
225 230 235 240

Gly Pro Ala Ile Phe Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser
245 250 255

Thr Val Glu Arg Thr Asp Ser Phe Thr Leu Ala Thr Ala Ala Glu Ala
260 265 270

Gly Lys Ile Thr Arg Glu Thr Ala Glu Asn Ala Leu Thr Gln Ala Thr
275 280 285

Ser Arg Leu Gln Lys Arg Leu Ala Asp Gln Lys Thr Gln Val Ser Pro
290 295 300

Leu Ala Gly Gly Arg Tyr Arg Gln Glu Asn Ser Val Leu Asp Asp Ala
305 310 315 320

Phe Ala Arg Arg Ala Ser Gly Lys Leu Ser Asn Lys Asp Pro Arg His
325 330 335

Ala Leu Gln Val Glu Ile Glu Ala Ala Ala Val Ala Met Ser Leu Gly
340 345 350

Ala Gln Gly Val Lys Ala Val Ala Glu Gln Ala Arg Thr Val Val Glu
355 360 365

Gln Ala Arg Lys Val Ala Ser Pro Gln Gly Thr Pro Gln Arg Asp Thr
370 375 380

<210> 55
<211> 951
<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 55
gtggttgagc gaaccggcac tgcatatcga aggcgtggag cagcctgctc gcgtatcacg 60
agccaaaatc aggtccgacg acgctttgga attacggtga atcagatgca aaagacgtcc 120
ctattggctt tggcctttgc aatcctggca gggtgtgggg gttcggggca ggcgccgggg 180
agtgatattc agggtgccca ggcagagatg aaaacaccca ttaaagtaga tctggatgcc 240
tacacctcaa aaaaacttga tgctgtgttg gaagctcggg ccaataaaag ctatgtgaat 300
aaaggtcaac tgatcgacct tgtgtcaggg gcgtttttgg gaacaccgta ccgctcaaac 360
atgttggtgg gcacagagga aatacctgaa cagttagtca tcgactttag aggtctggat 420
tgttttgctt atctggatta cgtagaggcg ttgcgaagat caacatcgca gcaggatttt 480
gtgaggaatc tcgttcaggt tcgttacaag ggtggtgatg ttgacttttt gaatcgcaag 540
cacttttca cggattgggc ttatggcact acacacccgg tggcggatga catcaccacg 600
cagataagcc ccggtgcggt aagtgtcaga aaacgcctta atgaaagggc caaaggcaaa 660
gtctatctgc caggtttgcc tgtggttgag cgcagcatga cctatatccc gagccgcctt 720
gtcgacagtc aggtggtaag ccacttgcgc acaggtgatt acatcggcat ttacaccccg 780
cttcccgggc tggatgtgac gcacgtcggt ttctttatca tgacggataa aggccctgtc 840
ttgcgaaatg catcttcacg aaaagaaaac agaaaggtaa tggatttgcc ttttctggac 900
tatgtatcgg aaaagccagg gattgttgtt ttcagggcaa aagacaattg a 951

<210> 56
<211> 316
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 56
Val Val Glu Arg Thr Gly Thr Ala Tyr Arg Arg Arg Gly Ala Ala Cys
1 5 10 15

Ser Arg Ile Thr Ser Gln Asn Gln Val Arg Arg Arg Phe Gly Ile Thr
20 25 30

Val Asn Gln Met Gln Lys Thr Ser Leu Leu Ala Leu Ala Phe Ala Ile
35 40 45

Leu Ala Gly Cys Gly Gly Ser Gly Gln Ala Pro Gly Ser Asp Ile Gln
50 55 60

Gly Ala Gln Ala Glu Met Lys Thr Pro Ile Lys Val Asp Leu Asp Ala
65 70 75 80

Tyr Thr Ser Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Ala Asn Lys

85 90 95

Ser Tyr Val Asn Lys Gly Gln Leu Ile Asp Leu Val Ser Gly Ala Phe
100 105 110

Leu Gly Thr Pro Tyr Arg Ser Asn Met Leu Val Gly Thr Glu Glu Ile
115 120 125

Pro Glu Gln Leu Val Ile Asp Phe Arg Gly Leu Asp Cys Phe Ala Tyr
130 135 140

Leu Asp Tyr Val Glu Ala Leu Arg Arg Ser Thr Ser Gln Gln Asp Phe
145 150 155 160

Val Arg Asn Leu Val Gln Val Arg Tyr Lys Gly Gly Asp Val Asp Phe
165 170 175

Leu Asn Arg Lys His Phe Phe Thr Asp Trp Ala Tyr Gly Thr Thr His
180 185 190

Pro Val Ala Asp Asp Ile Thr Thr Gln Ile Ser Pro Gly Ala Val Ser
195 200 205

Val Arg Lys Arg Leu Asn Glu Arg Ala Lys Gly Lys Val Tyr Leu Pro
210 215 220

Gly Leu Pro Val Val Glu Arg Ser Met Thr Tyr Ile Pro Ser Arg Leu
225 230 235 240

Val Asp Ser Gln Val Val Ser His Leu Arg Thr Gly Asp Tyr Ile Gly
245 250 255

Ile Tyr Thr Pro Leu Pro Gly Leu Asp Val Thr His Val Gly Phe Phe
260 265 270

Ile Met Thr Asp Lys Gly Pro Val Leu Arg Asn Ala Ser Ser Arg Lys
275 280 285

Glu Asn Arg Lys Val Met Asp Leu Pro Phe Leu Asp Tyr Val Ser Glu
290 295 300

Lys Pro Gly Ile Val Val Phe Arg Ala Lys Asp Asn
305 310 315

<210> 57
<211> 396
<212> DNA

<213> Pseudomonas syringae pv. delphinii

<400> 57
atgaaaaact catttgatct tcttgtcgac ggtttggcga aagactacag catgccgaat 60
ttgccgaaca agaaaacacga caatgaagtc tattgcttca cattccagag cgggctcgaa 120
gtaaacattt atcaggacga ctgtcgatgg gtgcatttct ccgccacaat cggacaattt 180
caagacgcca gcaatgacac gctcagccac gcacttcaac tgaacaattt cagtcttgga 240
aagcccttct tcacctttgg aatgaacgga gaaaaggtcg gcgtacttca cacacgcgtt 300
ccgttgattg aaatgaatac cgttgaaatg cgcaaggtat tcgaggactt gctcgatgta 360
gcaggcggca tcagagcgac attcaagctc agttaa 396

<210> 58
<211> 131
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 58
Met Lys Asn Ser Phe Asp Leu Leu Val Asp Gly Leu Ala Lys Asp Tyr
1 5 10 15

Ser Met Pro Asn Leu Pro Asn Lys Lys His Asp Asn Glu Val Tyr Cys
20 25 30

Phe Thr Phe Gln Ser Gly Leu Glu Val Asn Ile Tyr Gln Asp Asp Cys
35 40 45

Arg Trp Val His Phe Ser Ala Thr Ile Gly Gln Phe Gln Asp Ala Ser
50 55 60

Asn Asp Thr Leu Ser His Ala Leu Gln Leu Asn Asn Phe Ser Leu Gly
65 70 75 80

Lys Pro Phe Phe Thr Phe Gly Met Asn Gly Glu Lys Val Gly Val Leu
85 90 95

His Thr Arg Val Pro Leu Ile Glu Met Asn Thr Val Glu Met Arg Lys
100 105 110

Val Phe Glu Asp Leu Leu Asp Val Ala Gly Gly Ile Arg Ala Thr Phe
115 120 125

Lys Leu Ser
130

<210> 59
<211> 648

<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 59
atgagtacta tacctggcac ctcgggcgct cacccgattt atagctcaat ttccagccca 60
cgaaatatgt ctggctcgcc cacaccgagt caccgtattg gcggggaaac cctgacctct 120
attcatcagc tctctgccag ccagagagaa caatttctga atactcatga ccccatgaga 180
aaactcagga ttaacaatga tacgccactg tacagaacaa ccgagaagcg ttttatacag 240
gaaggcaaac tggccggcaa tccaaagtct attgcacgtg tcaacttgca cgaagaactg 300
cagcttaatc cgctcgccag tattttaggg aacttacctc acgaggcaag cgcttacttt 360
ccgaaaagcg cccgcgctgc ggatctgaaa gacccttcat tgaatgtaat gacaggctct 420
cgggcaaaaa atgctattcg cggctacgct catgacgacc atgtggcggt caagatgcga 480
ctgggcgact ttcttgaaaa aggcggcaag gtgtacgcgg acacttcatc agtcattgac 540
ggcggagacg aggcgagcgc gctgatcgtt acattgccta aaggacaaaa agttccagtc 600
gagattatcc ctacccataa cgacaacagc aataaaggca gaggctga 648

<210> 60
<211> 215
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 60
Met Ser Thr Ile Pro Gly Thr Ser Gly Ala His Pro Ile Tyr Ser Ser
1 5 10 15

Ile Ser Ser Pro Arg Asn Met Ser Gly Ser Pro Thr Pro Ser His Arg
20 25 30

Ile Gly Gly Glu Thr Leu Thr Ser Ile His Gln Leu Ser Ala Ser Gln
35 40 45

Arg Glu Gln Phe Leu Asn Thr His Asp Pro Met Arg Lys Leu Arg Ile
50 55 60

Asn Asn Asp Thr Pro Leu Tyr Arg Thr Thr Glu Lys Arg Phe Ile Gln
65 70 75 80

Glu Gly Lys Leu Ala Gly Asn Pro Lys Ser Ile Ala Arg Val Asn Leu
85 90 95

His Glu Glu Leu Gln Leu Asn Pro Leu Ala Ser Ile Leu Gly Asn Leu
100 105 110

Pro His Glu Ala Ser Ala Tyr Phe Pro Lys Ser Ala Arg Ala Ala Asp
115 120 125

Leu Lys Asp Pro Ser Leu Asn Val Met Thr Gly Ser Arg Ala Lys Asn

130 135 140

Ala Ile Arg Gly Tyr Ala His Asp Asp His Val Ala Val Lys Met Arg
145 150 155 160

Leu Gly Asp Phe Leu Glu Lys Gly Gly Lys Val Tyr Ala Asp Thr Ser
165 170 175

Ser Val Ile Asp Gly Gly Asp Glu Ala Ser Ala Leu Ile Val Thr Leu
180 185 190

Pro Lys Gly Gln Lys Val Pro Val Glu Ile Ile Pro Thr His Asn Asp
195 200 205

Asn Ser Asn Lys Gly Arg Gly
210 215

<210> 61
<211> 1128
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 61
gtgaacccta tccatgcacg cttctccagc gtagaagcgc tcagacattc aaacgttgat 60
attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcgtta cgagattcgt 120
gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgccca aatagcccag 240
gtactcaacg agaaagcggc ggcagttcca cgcctggaca gaatgttggg cagacgcttc 300
gatctggaga agggcggaag tagcgctgtg ggcgccgcaa tcaaggctgc cgacagccga 360
ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
gggcgcgata ccgaaatcgg tatctacatg atctacaaga gggacacgcc agacacaacg 480
cctatgaatg cggcagagca agaacattac ctggaaacgc tacaggctct cgataacaag 540
aaaaacctta tcatacgccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaaatc tgtgacacaa 780
ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
aatggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcggtatc 900
cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcggtctt 960
tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacgtt 1020
atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
gaaagaggct atgacccgga aatccggcg ctcagggcgc gaaactga 1128

<210> 62
<211> 375
<212> PRT

<213> Pseudomonas syringae pv. syringae

<400> 62

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Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
  1               5                  10                  15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
             20                  25                  30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
         35                  40                  45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
     50                  55                  60

Ala Ala His Leu Ile Gly Gly Gln Ser Gln Arg Ala Gln Ile Ala Gln
 65                  70                  75                  80

Val Leu Asn Glu Lys Ala Ala Ala Val Pro Arg Leu Asp Arg Met Leu
                 85                  90                  95

Gly Arg Arg Phe Asp Leu Glu Lys Gly Gly Ser Ser Ala Val Gly Ala
            100                 105                 110

Ala Ile Lys Ala Ala Asp Ser Arg Leu Thr Ser Lys Gln Thr Phe Ala
        115                 120                 125

Ser Phe Gln Gln Trp Ala Glu Lys Ala Glu Ala Leu Gly Arg Asp Thr
    130                 135                 140

Glu Ile Gly Ile Tyr Met Ile Tyr Lys Arg Asp Thr Pro Asp Thr Thr
145                 150                 155                 160

Pro Met Asn Ala Ala Glu Gln Glu His Tyr Leu Glu Thr Leu Gln Ala
                165                 170                 175

Leu Asp Asn Lys Lys Asn Leu Ile Ile Arg Pro Gln Ile His Asp Asp
            180                 185                 190

Arg Glu Glu Glu Glu Leu Asp Leu Gly Arg Tyr Ile Ala Glu Asp Arg
        195                 200                 205

Asn Ala Arg Thr Gly Phe Phe Arg Met Val Pro Lys Asp Gln Arg Ala
    210                 215                 220

Pro Glu Thr Asn Ser Gly Arg Leu Thr Ile Gly Val Glu Pro Lys Tyr
225                 230                 235                 240
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Gly Ala Gln Leu Ala Leu Ala Met Ala Thr Leu Met Asp Lys His Lys
245 250 255

Ser Val Thr Gln Gly Lys Val Val Gly Pro Ala Lys Tyr Gly Gln Gln
260 265 270

Thr Asp Ser Ala Ile Leu Tyr Ile Asn Gly Asp Leu Ala Lys Ala Val
275 280 285

Lys Leu Gly Glu Lys Leu Lys Lys Leu Ser Gly Ile Pro Pro Glu Gly
290 295 300

Phe Val Glu His Thr Pro Leu Ser Met Gln Ser Thr Gly Leu Gly Leu
305 310 315 320

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
355 360 365

Pro Ala Leu Arg Ala Arg Asn
370 375

<210> 63
<211> 1149
<212> DNA
<213> Pseudomonas syringae pv. atrofaciens

<400> 63
atgaacccga tacaaacgcg tttctctaac gtcgaagcac ttagacattc agaggtggat 60
gtacaggagc tcaaagcaca cggtcaaata gaagtgggtg gcaaatgcta cgacattcgc 120
gcggctgcca ataacgacct gactgtccag cgttctgaca aacagatggc gatgagcaag 180
tttttcaaaa aagcagggtt aagtgggagt tccggcagtc agtccgatca aattgcgcag 240
gtactgaatg acaagcgcgg ctcttccgtt ccccgtctta tacgccaggg gcagacccat 300
ctgggccgta tgcaattcaa catcgaagag gggcaaggca gttcggccgc cacgtccgtc 360
cagaacagca ggctgcccaa tggccgcttg gtaaacagca gtattttgca atgggtcgaa 420
aaggcgaaag ccaatggcag cacaagtacc agtgctcttt atcagatcta cgcaaaagaa 480
ctcccgcgtg tagaactgct gccacgcact gagcaccggg cgtgtctggc gcatatgtat 540
aagctgaacg gtaaggacgg tatcagtatt tggccgcagt ttctggatgg cgtgcgcggg 600
ttgcagctaa aacatgacac aaaagtgttc atgatgaaca accccaaagc agcggacgag 660
ttctacaaga tcgaacgttc gggcacgcaa tttccggatg aggctgtcaa ggcgcgcctg 720
acgataaatg tcaaacctca attccagaag gccatggtcg acgcagcggt caggttgacc 780
gctgagcgtc acgatatcat tactgccaaa gtggcaggtc ctgcaaagat tggcacgatt 840

acagatgcag cggttttcta tgtaagcgga gatttttccg ctgcgcagac acttgcaaaa 900
gagcttcagg cactgctccc tgacgatgcg tttatcaatc atacgccagc tggaatgcaa 960
tccatgggca aggggctgtg ttacgccgag cgtacaccgc aggacaggac aagccacgga 1020
atgtcgcgcg ccagcataat cgagtcggca ctggcagaca ccagcaggtc gtcactggag 1080
aagaagctgc gcaatgcttt caagagcgcc ggatacaatc ccgacaaccc ggcattcagg 1140
ttggaatga 1149

<210> 64
<211> 382
<212> PRT
<213> Pseudomonas syringae pv. atrofaciens

<400> 64

Met Asn Pro Ile Gln Thr Arg Phe Ser Asn Val Glu Ala Leu Arg His
1 5 10 15

Ser Glu Val Asp Val Gln Glu Leu Lys Ala His Gly Gln Ile Glu Val
20 25 30

Gly Gly Lys Cys Tyr Asp Ile Arg Ala Ala Ala Asn Asn Asp Leu Thr
35 40 45

Val Gln Arg Ser Asp Lys Gln Met Ala Met Ser Lys Phe Phe Lys Lys
50 55 60

Ala Gly Leu Ser Gly Ser Ser Gly Ser Gln Ser Asp Gln Ile Ala Gln
65 70 75 80

Val Leu Asn Asp Lys Arg Gly Ser Ser Val Pro Arg Leu Ile Arg Gln
85 90 95

Gly Gln Thr His Leu Gly Arg Met Gln Phe Asn Ile Glu Glu Gly Gln
100 105 110

Gly Ser Ser Ala Ala Thr Ser Val Gln Asn Ser Arg Leu Pro Asn Gly
115 120 125

Arg Leu Val Asn Ser Ser Ile Leu Gln Trp Val Glu Lys Ala Lys Ala
130 135 140

Asn Gly Ser Thr Ser Thr Ser Ala Leu Tyr Gln Ile Tyr Ala Lys Glu
145 150 155 160

Leu Pro Arg Val Glu Leu Leu Pro Arg Thr Glu His Arg Ala Cys Leu
165 170 175

Ala His Met Tyr Lys Leu Asn Gly Lys Asp Gly Ile Ser Ile Trp Pro

180 185 190

Gln Phe Leu Asp Gly Val Arg Gly Leu Gln Leu Lys His Asp Thr Lys
195 200 205

Val Phe Met Met Asn Asn Pro Lys Ala Ala Asp Glu Phe Tyr Lys Ile
210 215 220

Glu Arg Ser Gly Thr Gln Phe Pro Asp Glu Ala Val Lys Ala Arg Leu
225 230 235 240

Thr Ile Asn Val Lys Pro Gln Phe Gln Lys Ala Met Val Asp Ala Ala
245 250 255

Val Arg Leu Thr Ala Glu Arg His Asp Ile Ile Thr Ala Lys Val Ala
260 265 270

Gly Pro Ala Lys Ile Gly Thr Ile Thr Asp Ala Ala Val Phe Tyr Val
275 280 285

Ser Gly Asp Phe Ser Ala Ala Gln Thr Leu Ala Lys Glu Leu Gln Ala
290 295 300

Leu Leu Pro Asp Asp Ala Phe Ile Asn His Thr Pro Ala Gly Met Gln
305 310 315 320

Ser Met Gly Lys Gly Leu Cys Tyr Ala Glu Arg Thr Pro Gln Asp Arg
325 330 335

Thr Ser His Gly Met Ser Arg Ala Ser Ile Ile Glu Ser Ala Leu Ala
340 345 350

Asp Thr Ser Arg Ser Ser Leu Glu Lys Lys Leu Arg Asn Ala Phe Lys
355 360 365

Ser Ala Gly Tyr Asn Pro Asp Asn Pro Ala Phe Arg Leu Glu
370 375 380

<210> 65
<211> 1464
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 65
atgcacatca accaatccgc ccaacaaccg cctggcgttg caatggagag ttttcggaca 60
gcttccgacg cgtcccttgc ttcgagttct gtgcggtctg tcagcactac ctcgtgccgc 120
gatctacaag ctattaccga ttatctgaaa catcacgtgt tcgctgcgca caggttttcg 180

gtaataggct caccggatga gcgtgatgcc gctcttgcac acaacgagca gatcgatgcg 240
ttggtagaga cacgcgccaa ccgcctgtac tccgaagggg agacccccgc aaccatcgcc 300
gaaacattcg ccaaggcgga aaagttcgac cgtttggcga cgaccgcatc aagtgctttt 360
gagaacacgc catttgccgc tgcctcggtg cttcagtaca tgcagcctgc gatcaacaag 420
ggcgattggc tagcaacgcc gctcaagccg ctgaccccgc tcatttccgg agcgctgtcg 480
ggagccatgg accaggtggg caccaaaatg atggatcgtg cgaggggtga tctgcattac 540
ctgagcactt cgccggacaa gttgcatgat gcgatggccg tatcggtgaa gcgccactcg 600
cctgcgcttg gtcgacaggt tgtggacatg gggattgcag tgcagacgtt ctcggcgcta 660
aatgtggtgc gtaccgtatt ggctccagca ctagcgtcca gaccgtcggt gcagggtgct 720
gttgattttg gcgtatctac ggcgggtggc ttggttgcga atgcaggctt tggcgaccgc 780
atgctcagtg tgcaatcgcg cgatcaactg cgtgggggggg cattcgtact tggcatgaaa 840
gataaagagc ccaaggccgc gttgagtgaa gaaactgatt ggcttgatgc ttacaaagcg 900
atcaagtcgg ccagctactc aggtgcggcg ctcaatgcgg gcaagcggat ggccggcctg 960
ccactggacg tcgcgaccga cgggctcaag gcggtgagaa gtctggtgtc ggccaccagc 1020
ctgacaaaaa atggcctggc cctagccggt ggttacgccg gggtaagtaa gttgcagaaa 1080
atggcgacga aaaatatcac tgattcggcg accaaggctg cggttagtca gctgagcaac 1140
ctggtgggtt cggtaggcgt tttcgcaggc tggaccaccg ctggactggc gactgaccct 1200
gcggttaaga aagccgagtc gtttatacag gataaggtga aatcgaccgc atctagtacc 1260
acaagctatg ttgccgacca gaccgtcaaa ctggcgaaaa cagtcaagga catgagcggg 1320
gaggcgatct ccagcaccgg tgccagctta cgcagtactg tcaataacct gcgtcatcgc 1380
tccgctccgg aagctgatat cgaagaaggt gggatttcgg cgttttctcg aagtgaaaca 1440
ccgtttcagc tcaggcgttt gtaa 1464

<210> 66
<211> 487
<212> PRT
<213> Pseudomonas syringae pv. tomato

<400> 66
Met His Ile Asn Gln Ser Ala Gln Gln Pro Pro Gly Val Ala Met Glu
1 5 10 15

Ser Phe Arg Thr Ala Ser Asp Ala Ser Leu Ala Ser Ser Ser Val Arg
20 25 30

Ser Val Ser Thr Thr Ser Cys Arg Asp Leu Gln Ala Ile Thr Asp Tyr
35 40 45

Leu Lys His His Val Phe Ala Ala His Arg Phe Ser Val Ile Gly Ser
50 55 60

Pro Asp Glu Arg Asp Ala Ala Leu Ala His Asn Glu Gln Ile Asp Ala
65 70 75 80

Leu Val Glu Thr Arg Ala Asn Arg Leu Tyr Ser Glu Gly Glu Thr Pro
85 90 95

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Ala Thr Ile Ala Glu Thr Phe Ala Lys Ala Glu Lys Phe Asp Arg Leu
            100                 105                 110

Ala Thr Thr Ala Ser Ser Ala Phe Glu Asn Thr Pro Phe Ala Ala Ala
        115                 120                 125

Ser Val Leu Gln Tyr Met Gln Pro Ala Ile Asn Lys Gly Asp Trp Leu
    130                 135                 140

Ala Thr Pro Leu Lys Pro Leu Thr Pro Leu Ile Ser Gly Ala Leu Ser
145                 150                 155                 160

Gly Ala Met Asp Gln Val Gly Thr Lys Met Met Asp Arg Ala Arg Gly
                165                 170                 175

Asp Leu His Tyr Leu Ser Thr Ser Pro Asp Lys Leu His Asp Ala Met
            180                 185                 190

Ala Val Ser Val Lys Arg His Ser Pro Ala Leu Gly Arg Gln Val Val
        195                 200                 205

Asp Met Gly Ile Ala Val Gln Thr Phe Ser Ala Leu Asn Val Val Arg
    210                 215                 220

Thr Val Leu Ala Pro Ala Leu Ala Ser Arg Pro Ser Val Gln Gly Ala
225                 230                 235                 240

Val Asp Phe Gly Val Ser Thr Ala Gly Gly Leu Val Ala Asn Ala Gly
                245                 250                 255

Phe Gly Asp Arg Met Leu Ser Val Gln Ser Arg Asp Gln Leu Arg Gly
            260                 265                 270

Gly Ala Phe Val Leu Gly Met Lys Asp Lys Glu Pro Lys Ala Ala Leu
        275                 280                 285

Ser Glu Glu Thr Asp Trp Leu Asp Ala Tyr Lys Ala Ile Lys Ser Ala
    290                 295                 300

Ser Tyr Ser Gly Ala Ala Leu Asn Ala Gly Lys Arg Met Ala Gly Leu
305                 310                 315                 320

Pro Leu Asp Val Ala Thr Asp Gly Leu Lys Ala Val Arg Ser Leu Val
                325                 330                 335

Ser Ala Thr Ser Leu Thr Lys Asn Gly Leu Ala Leu Ala Gly Gly Tyr
            340                 345                 350
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Ala Gly Val Ser Lys Leu Gln Lys Met Ala Thr Lys Asn Ile Thr Asp
355 360 365

Ser Ala Thr Lys Ala Ala Val Ser Gln Leu Ser Asn Leu Val Gly Ser
370 375 380

Val Gly Val Phe Ala Gly Trp Thr Thr Ala Gly Leu Ala Thr Asp Pro
385 390 395 400

Ala Val Lys Lys Ala Glu Ser Phe Ile Gln Asp Lys Val Lys Ser Thr
405 410 415

Ala Ser Ser Thr Thr Ser Tyr Val Ala Asp Gln Thr Val Lys Leu Ala
420 425 430

Lys Thr Val Lys Asp Met Ser Gly Glu Ala Ile Ser Ser Thr Gly Ala
435 440 445

Ser Leu Arg Ser Thr Val Asn Asn Leu Arg His Arg Ser Ala Pro Glu
450 455 460

Ala Asp Ile Glu Glu Gly Gly Ile Ser Ala Phe Ser Arg Ser Glu Thr
465 470 475 480

Pro Phe Gln Leu Arg Arg Leu
485

<210> 67
<211> 88
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 67
gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
agttcgattc tccctcgggg caccacca 88

<210> 68
<211> 85
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 68
gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
agttcgattc tccctcgggg cacca 85

<210> 69
<211> 1065
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 69
atgcgcgtcg ctgactttac cttcgaactc cccgattccc tgattgctcg tcacccgttg 60
gccgagcgtc gcagcagtcg tctgttgacc cttgatgggc cgacgggcgc gctggcacat 120
cgtcaattca ccgatttgct cgagcatttg cgctcgggcg acttgatggt gttcaacaat 180
acccgtgtca ttcccgcacg tttgttcggg cagaaggcgt ccggcggcaa gctggagatt 240
ctggtcgagc gcgtgctgga cagccatcgt gtgctggcgc acgtgcgtgc cagcaagtcg 300
ccaaagccgg gctcgtcgat cctgatcgat ggcggcggcg aggccgagat ggtggcgcgg 360
catgacgcgc tgttcgagtt gcgctttgcc gaagaagtgc tgccgttgct ggatcgtgtc 420
ggccatatgc cgttgcctcc ttatatagac cgcccggacg aaggtgccga ccgcgagcgt 480
tatcagaccg tttacgccca gcgcgccggt gctgtggcgg cgccgactgc cggcctgcat 540
ttcgaccagc cgttgatgga agcaattgcc gccaagggcg tcgagactgc ttttgtcact 600
ctgcacgtcg gcgcgggtac gttccagccg gtgcgtgtcg agcagatcga agatcaccac 660
atgcacagcg aatggctgga agtcagccag gacgtggtcg atgccgtggc ggcgtgccgt 720
gcgcggggcg ggcgggtgat tgcggtcggg accaccagcg tgcgttcgct ggagagtgcc 780
gcgcgtgatg gccagttgaa gccgtttagc ggcgacaccg acatcttcat ctatccgggg 840
cggccgtttc atgtggtcga tgccctggtg actaattttc atttgcctga atccacgctg 900
ttgatgctgg tttcggcgtt cgccggttat cccgaaacca tggcggccta cgcggcggcc 960
atcgaacacg ggtaccgctt cttcagttac ggtgatgcca tgttcatcac ccgcaatccc 1020
gcgccgacgg ccccacagga atcggcacca gaggatcacg catga 1065

<210> 70
<211> 354
<212> PRT
<213> Pseudomonas syringae pv. tomato

<400> 70
Met Arg Val Ala Asp Phe Thr Phe Glu Leu Pro Asp Ser Leu Ile Ala
1 5 10 15

Arg His Pro Leu Ala Glu Arg Arg Ser Ser Arg Leu Leu Thr Leu Asp
20 25 30

Gly Pro Thr Gly Ala Leu Ala His Arg Gln Phe Thr Asp Leu Leu Glu
35 40 45

His Leu Arg Ser Gly Asp Leu Met Val Phe Asn Asn Thr Arg Val Ile
50 55 60

Pro Ala Arg Leu Phe Gly Gln Lys Ala Ser Gly Gly Lys Leu Glu Ile
65 70 75 80

Leu Val Glu Arg Val Leu Asp Ser His Arg Val Leu Ala His Val Arg

85 90 95

Ala Ser Lys Ser Pro Lys Pro Gly Ser Ser Ile Leu Ile Asp Gly Gly
100 105 110

Gly Glu Ala Glu Met Val Ala Arg His Asp Ala Leu Phe Glu Leu Arg
115 120 125

Phe Ala Glu Glu Val Leu Pro Leu Leu Asp Arg Val Gly His Met Pro
130 135 140

Leu Pro Pro Tyr Ile Asp Arg Pro Asp Glu Gly Ala Asp Arg Glu Arg
145 150 155 160

Tyr Gln Thr Val Tyr Ala Gln Arg Ala Gly Ala Val Ala Ala Pro Thr
165 170 175

Ala Gly Leu His Phe Asp Gln Pro Leu Met Glu Ala Ile Ala Ala Lys
180 185 190

Gly Val Glu Thr Ala Phe Val Thr Leu His Val Gly Ala Gly Thr Phe
195 200 205

Gln Pro Val Arg Val Glu Gln Ile Glu Asp His His Met His Ser Glu
210 215 220

Trp Leu Glu Val Ser Gln Asp Val Val Asp Ala Val Ala Ala Cys Arg
225 230 235 240

Ala Arg Gly Gly Arg Val Ile Ala Val Gly Thr Thr Ser Val Arg Ser
245 250 255

Leu Glu Ser Ala Ala Arg Asp Gly Gln Leu Lys Pro Phe Ser Gly Asp
260 265 270

Thr Asp Ile Phe Ile Tyr Pro Gly Arg Pro Phe His Val Val Asp Ala
275 280 285

Leu Val Thr Asn Phe His Leu Pro Glu Ser Thr Leu Leu Met Leu Val
290 295 300

Ser Ala Phe Ala Gly Tyr Pro Glu Thr Met Ala Ala Tyr Ala Ala Ala
305 310 315 320

Ile Glu His Gly Tyr Arg Phe Phe Ser Tyr Gly Asp Ala Met Phe Ile
325 330 335

Thr Arg Asn Pro Ala Pro Thr Ala Pro Gln Glu Ser Ala Pro Glu Asp

340 345 350

His Ala

<210> 71
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 71
atgactcgag gcgtggattc aggcaaat 28

<210> 72
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 72
atgagaattc tgccgccgct ttctcgtt 28

<210> 73
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 73
cgctctagac caaggactgc 20

<210> 74
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 74
ccagaagctt ctgtttttga gtc 23

<210> 75
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 75
agtaggatcc tgaaatgtag gggcccgg 28

<210> 76
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 76
agtaaagctt atgatgctgt ttccagta 28

<210> 77
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 77
agtaggatcc tctcgaagga atggagca 28

<210> 78
<211> 28
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 78
agtaaagctt cgtgaagatg catttcgc 28

<210> 79
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 79
agtaggatcc tagtcactga tcgaacgt 28

<210> 80
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 80
agtactcgag ccacgaaata acacggta 28

<210> 81
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 81
agtaggatcc caggactgcc ttccagcg 28

<210> 82
<211> 28
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 82
agtactcgag cagagcggcg tccgtggc 28

<210> 83
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 83
agtaggatcc agaattgttg aagaaatc 28

<210> 84
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 84
agtaaagctt tgcgctgtta actcatcg 28

<210> 85
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 85
ggggcaccac cattgagaaa agaccttgaa attcaaggtc ttttttttcg tctggtggaa 60
agtggtctga ctgaggctgc ga 82

<210> 86
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 86
ggggcaccac atagcagtat ccagaggtcc caaccagccc cgcaacacca gataaaccgg 60
cccacgagcc ggtttttttg tg 82

<210> 87
<211> 81
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 87
ggggcaccac ctttaaaaaa gaccttgaaa ttcaaggtct ttttttcgt ctggtggaaa 60
gtgccttgat ccaatcctcg c 81

<210> 88
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 88
gcccgggcgt gacgctgccc gggccccgac atttcagtca atcaatgcgc cttcgcaatc 60
ccgaactgat caagcaccgg at 82

<210> 89
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 89
gaaggctcag cattcagggc gtctgagccg actcaattca atcaatgcgc cttgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 90
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 90
gaggaagagg cttgaaaaag agttcaacct cttccctgct atcaatgcgc cctgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 91
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human immunodeficiency virus TAT protein, transduction domain

<400> 91

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10